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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,622	02/04/2005	Xinqi Liu	4439-4029	5866
27123 7590 05/14/2008 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101				
EXAMINER DEES, NIKKI H				
ART UNIT 1794		PAPER NUMBER		
NOTIFICATION DATE 05/14/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

## Application No.

10/523,622

## Applicant(s)

LIU ET AL.

## Examiner

Nikki H. Dees

## Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The Amendment filed January 31, 2008, has been entered. Claims 1 and 4-16 remain pending in the application. The previous claim objections have been withdrawn in light of Applicant's amendments to claims 1, 4-14 and 16. The 103 rejection of claims 1-4 over General Foods Corp (JP 44-6211 B) in view of Muralidhara et al. (6,630,195) has been withdrawn in light of Applicant's amendments.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a

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question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 11 recites the broad recitation of 65% by weight or more, and the claim also recites 70% by weight or more which is the narrower statement of the range/limitation.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Amended claims 1, 4-11 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muralidhara et al. (6,630,195) in view of General Foods Corp (JP 44-6211 B).

7. Muralidhara et al. ('195) teach a method for extracting oilseed material under basic conditions. The method comprises mixing an oilseed material with an aqueous alkaline solution, with pH of about 7.5 to 10. It is stated that the pH is allowed to slowly decrease as subsequent extractions occur (col. 7 lines 34-53). The method produces a mixture of insoluble material, including proteins, in the aqueous phase (col. 7 lines 61-

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63). The method also comprises the use of multi-stage counter-current extractions to increase the efficiency of the extractions and produce and extract solution with a high concentration of dissolved solids (at least about 7%) (col. 8 lines 16-30). Following the counter-current extraction, a filtration step is utilized to separate soluble components from the soy protein (col. 8 lines 54-60).

8. Regarding claim 4 to the use of a three-stage counter-current extraction method, one of ordinary skill in the art would have the ability to adjust the number of stages in the counter-current extraction in order to provide for the most efficient protein recovery while keeping associated costs low. A three-stage counter current extraction method is specifically taught in Fig. 5. of '195 (AT-101, AT-102 and AT-103).

9. Regarding claim 6, the '195 patent teaches the aqueous solution is present in a ratio ranging from 6:1 to 10:1 of the oilseed material (col. 8 lines 22-24). This range overlaps that claimed by Applicant, rendering Applicant's range *prima facie* obvious.

10. Regarding claim 7, the '195 patent teaches the temperature range for their extraction at about 15 to 40°C (col. 7 lines 9-12). This is within the range as claimed by Applicants.

11. Regarding claim 13, the '195 patent teaches pasteurization and spray drying to separate the water and protein in the isolation step (col. 16 lines 3-12).

12. Regarding claims 14 and 16, the '195 patent teaches a soy protein isolate and foodstuffs containing the same (col. 18 lines 2-4).

13. Muralidhara et al. are silent as to the use of acid-washed protein flakes in their process. They also do not state the starting protein content of their extraction process.

14. General Foods Corp. teach a process for acid washing soy-protein flakes in order to solubilize components such as carbohydrates and salts, followed by adjusting the flake slurry to a neutral to alkaline pH to solubilize the soy protein (pp. 3-4).

15. Because both Muralidhara et al. and General Foods teach a method for removing components other than soy protein from the processing stream (Muralidhara et al. by filtration, General Foods by acid washing) it would have been obvious to one of ordinary skill in the art to achieve the predictable result of removing components other than soy protein by acid washing as taught by General Foods before subjecting the soy protein to the counter-current extraction process of Muralidhara et al. Further, this acid washing would have been expected to improve the process of Muralidhara et al. as it would have reduced the contaminants of the protein-containing solution, thus reducing the membrane fouling in the filtration step.

16. Regarding claim 8 and the protein content of the extract solution, the concentration of soy protein in the extraction solution as taught by Muralidhara et al. is lower than that claimed by Applicants (col. 8 lines 49-53). One of ordinary skill would expect the method of Muralidhara et al. in view of General Foods Corp. to result in a higher protein content due to a lower amount of non-protein material present in the extract.

17. Regarding claim 10 and the multi-stage acid washing of the soy protein, acid washing the soy protein more than once is considered obvious over the teachings of General Foods as the repeated washings result in a product with the same utility as the singly-washed product in of General Foods.

18. Regarding claim 11 and the crude-protein content of the material after the acid-washing step, General Foods Corp. do not report the crude protein content after the acid-washing step. Given that the starting material for both the claimed method and the method of General Foods Corp. is the same, it would be expected that the crude protein content after the acid washing steps would also be the same.

19. Regarding the gel strength of the isolated soy protein, the gel strength taught by Muralidhara et al. is lower than that claimed by Applicants (col. 17 lines 48-51). However, the conditions reported for the gel strength are not the same. It would be expected that the soy protein isolate produced by the process of Muralidhara et al. in view of General Foods Corp. would have a gel-strength as claimed by Applicants.

20. Amended claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muralidhara et al. (6,630,195) in view of General Foods Corp (JP 44-6211 B) and Gomi et al. (4,186,218).

21. Muralidhara et al. and General Foods Corp. teach a method for producing an isolated soy-protein as detailed above in regard to claim 1.

22. They are silent as to the use of an emulsifier in the acid-washing step.

23. Gomi et al. teach the use of an emulsifier including glycerin fatty acid esters to act as surface active agents in the processing of soybean flake material (col. 3 lines 7-12).

24. One of ordinary skill in the art at the time the invention was made would have known the effects of adding an emulsifier (surface active agent) to a solution of soy

protein. The addition of the surface active agent as taught by Gomi et al. in the acid-washing step of General Foods Corp. would have been expected to increase the solubility of the soy protein in order to improve the efficiency of the acid washing step. This would have been a predictable result, obtainable with nothing more than routine experimentation by one of ordinary skill in the art.

### ***Response to Arguments***

25. Applicant's arguments filed January 31, 2008, have been fully considered but they are not persuasive with regard to the 103 rejections over Muralidhara et al. in view of General Foods Corp. The 103 rejections over General Foods Corp. in view of Muralidhara et al. have been withdrawn

26. Applicant argues (Remarks, p. 2) that obviousness is not established in combining the teachings of General Foods and Muralidhara.

27. The prior art teaches the elements claimed by Applicants. General Foods teaches acid washing of soy protein and Muralidhara teaches the countercurrent extraction method and subsequent isolation of the protein. One of ordinary skill in the art could have combined the methods as taught with no change in their respective functions in order to result in the claimed method wherein the soy protein is acid washed, followed by a counter-current extraction and subsequent isolation. There would have been a reasonable expectation that the resultant product would have been a suitable soy protein isolate.



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28. Applicant argues (Remarks, p. 3) that the instant invention does not use an acid-precipitation step or a membrane filtration step.

29. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the membrane filtration step) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

30. It is not relevant to the instant application that Muralidhara teaches a membrane filtration step following the counter current extraction. Due to the claim language "comprising" there is nothing precluding the inclusion of an additional filtration step following the counter current extraction step but before the isolation step. Therefore, the method of Muralidhara would not be rendered inoperable. Muralidhara in view of General Foods does disclose all of the claimed elements.

31. As stated above in paragraph 27, one of ordinary skill would have been able to combine the teachings of General Foods and Muralidhara to result in a soy protein isolate that would be expected to have the same gellation properties as that of the claimed invention.

***Conclusion***

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikki H. Dees whose telephone number is (571) 270-3435. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nikki H. Dees  
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